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LUD 5298.5 DIV (10309270)

Dated: 2/25/04 Signature: Jani Mplikouzakis (Jani Malikouzakis)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Initial Patent Application of: Kohei MIYAZONO et al.

Application No.: 10/630,555

Group Art Unit: 1623

Filed: July 30, 2003

Examiner: Not Yet Assigned

For: ANTIBODIES WHICH BIND SPECIFICALLY TO  
ACTIVIN RECEPTOR LIKE KINASES

**REQUEST FOR CORRECTED FILING RECEIPT**

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Dear Sir:

Applicant hereby requests that a corrected Filing Receipt be issued in the above-identified application. The official Filing Receipt received by Applicant, a copy of which is attached hereto, has the following error:

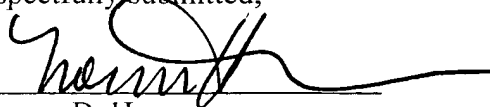
In the Foreign Applications section, please change the sixth foreign application number to -- **9316099.2** --.

Please refer to the copy of the filing receipt, wherein the change is indicated. Applicants are also attaching a copy of the cover page of the international priority application wherein the correct foreign application number is listed.

Applicant additionally requests that all pertinent U.S. Patent and Trademark Office records relating to the subject application be changed to reflect this correction.

Applicant believes no fee is due with this request. However, if a fee is due, please charge our Deposit Account No. 50-0624, under Order No. **LUD 5298.5 DIV (10309270)** from which the undersigned is authorized to draw.

Respectfully submitted,

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## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/630,555	07/30/2003	1623	750	NY-LUD 5298.5-DIV-US	11	2	1

CONFIRMATION NO. 7477

024972  
 FULBRIGHT & JAWORSKI, LLP  
 666 FIFTH AVE  
 NEW YORK, NY 10103-3198

## FILING RECEIPT



\*OC000000011486524\*

Date Mailed: 12/15/2003

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

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## Domestic Priority data as claimed by applicant

This application is a DIV of 09/903,068 07/11/2001  
 which is a DIV of 09/679,187 10/03/2000 PAT 6,331,621  
 which is a DIV of 08/436,265 10/30/1995 PAT 6,316,217  
 which is a 371 of PCT/GB93/02367 11/17/1993

## Foreign Applications

UNITED KINGDOM 9224057.1 11/17/1992  
 UNITED KINGDOM 9304677.9 03/08/1993  
 UNITED KINGDOM 9304680.3 03/08/1993  
 UNITED KINGDOM 9311047.6 05/28/1993  
 UNITED KINGDOM 9313763.6 07/02/1993  
 UNITED KINGDOM 9136099.2 08/03/1993  
 UNITED KINGDOM 9321344.5 10/15/1993

931099.2 01/21/93

If Required, Foreign Filing License Granted: 12/12/2003

Projected Publication Date: 03/25/2004

Non-Publication Request: No

Early Publication Request: No

Title

Antibodies which bind specifically to activin receptor like kinases

Preliminary Class

435

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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>5</sup> : C12N 15/12, C07K 13/00 C12N 5/10, A61K 37/02 G01N 33/68		A2	(11) International Publication Number: WO 94/11502 (43) International Publication Date: 26 May 1994 (26.05.94)
(21) International Application Number: PCT/GB93/02367 (22) International Filing Date: 17 November 1993 (17.11.93)		(72) Inventors; and (75) Inventors/Applicants (for US only): MIYAZONO, Kohei [JP/SE]; Flogstavägen 63D, S-752 63 Uppsala (SE). DUKE, Peter, Ten [NL/SE]; Flogstavägen 25C, S-752 63 Uppsala (SE). FRANZEN, Petra [SE/SE]; Lindsbergsgatan 15b, S-752 40 Uppsala (SE). YAMASHITA, Hidetoshi [JP/SE]; Flogstavägen 33A, S-752 63 Uppsala (SE). HELDIN, Carl-Henrik [SE/SE]; Hesselmans väg 35, S-752 63 Uppsala (SE).	
(30) Priority data: 9224057.1 ✓ 17 November 1992 (17.11.92) GB 9304677.9 ✓ 8 March 1993 (08.03.93) GB 9304680.3 ✓ 8 March 1993 (08.03.93) GB 9311047.6 ✓ 28 May 1993 (28.05.93) GB 9313763.6 ✓ 2 July 1993 (02.07.93) GB 9316099.2 ✓ 3 August 1993 (03.08.93) GB 9321344.5 ✓ 15 October 1993 (15.10.93) GB		(74) Agent: GILL JENNINGS & EVERY; Broadgate House, 7 Eldon Street, London EC2M 7LH (GB).	
(71) Applicant (for all designated States except US): LUDWIG INSTITUTE FOR CANCER RESEARCH [GB/GB]; St. Mary's Hospital Medical School, Norfolk Place, Paddington, London W2 1PG (GB).		(81) Designated States: AU, CA, JP, KR, NZ, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
		Published Without international search report and to be republished upon receipt of that report.	

(54) Title: ACTIVIN RECEPTOR-LIKE KINASES, PROTEINS HAVING SERINE THREONINE KINASE DOMAINS AND THEIR USE

cons.aa	C C C V	A K	E
HTGFBR-II	LDTLVCKGRFAEVYKALKQNTSEQFETVAVKI	FPYDHYASWDRKDI	FSFINLQKHILLOF
BACTR-IIIB	LLETKARGRFQCVWKAQLMN-----	DFVAVKI	KPLQCKQSWQSEREI
BACTR-II	LLEVKARGRFQCVWKAQLMN-----	ETVAVKI	FPYDHYASWDRKDI
daf-1	LTKRVGSGRFQGVSKGQYRG-----	EAVAVVFNAL	DEPAFQKEIET
subdomains	I	II	III IV

HTGFBR-II	LTAERKTELKQKQTLITAFHAKGRGLQYLTRKVI	SWEDLRNVGSSLRGLSHLSKNTF-C
BACTR-IIIB	IAAEKRGSNLEVEMLITAFHAKGRGLQYLTRKVI	SWEDLRNVGSSLRGLSHLSKNTF-C
BACTR-II	IGAEKRGTSVDVDMLITAFHAKGRGLQYLTRKVI	SWEDLRNVGSSLRGLSHLSKNTF-C
daf-1	IGSDRVDTGFTVLMGLVIEYHPGSLHDFLENTVNI	ETTYNLMRSTASGLAFHNOIGGSK
subdomains	V	VI-A

cons.aa	DLK N	DFG
HTGFBR-II	-GRPRPPIVHDLKSSNHLVQDLTCCLDFGLSLRL---	GPYSSVDDLANSQGVQVARYMAP
BACTR-IIIB	CEGHKPSIAHGRDFKSNVLLKSLDTAVLADFGAVRF---	EPGKPPGD---THGQVGTTRYMAP
BACTR-II	-DGHKPAISHRDIKSTNVLLKSLDTACTADFGALKF---	BAGKSAGD---THGQVGTTRYMAP
daf-1	-ESNKPAPAHARDIKSTNTYKRLTCAIGDLGLSLSKPDAASDIAN---	ENYKCGTVRYLAP
subdomains	VII-B	VIII

## (57) Abstract

A new receptor family has been identified, of activin-like kinases. Novel proteins have activin/TGF- $\beta$ -type I receptor functionality, and have consequential diagnostic/therapeutic utility. They may have a serine/threonine kinase domain, a DFKSRN or DLKSKN sequence in subdomain VIB and/or a GTKRYM sequence in subdomain VIII.